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SPACE ECONOMIC METRICS AS A TOOL FOR UNDERSTANDING AND ENHANCING NATIONAL SPACE COMPETITIVENESS

Abstract

Measuring the economic impacts of space activity—whether in particular sectors, countries, or across national boundaries—is a frequent challenge for policymakers, academics, and the space community as a whole. Yet economic metrics are essential to any serious discussion of competing space objectives: without them, questions of the relative strategic values and impacts of space activity remain largely matters of subjective opinion.

In order to provide a fact-based overlay to the major space activities underway globally in 2010, this paper will survey several leading sources of international quantitative economic data on the economic and human capital dimensions of global space activity. The paper will compare and contrast data sources and methodologies to illuminate how different approaches to quantifying space activity can yield different results.

The paper will then address an important follow-up question: so what? What are the implications of quantitative economic data on space? How can decision-makers use quantitative information to pursue strategic goals? Through the lens of a structured methodology examining national space competitiveness, this paper will conclude with three case studies of how decision makers can use economic metrics to enhance country-level space goals. The case studies will highlight three distinct examples of national space economic competitiveness:

1. EXAMPLE 1: A major leading space participant country, featuring a longstanding space history and robust economic space advantages. CASE STUDY: How is this country using its economic space advantages to maintain or increase its relative national space competitiveness? COUNTRY OPTIONS: Europe (considered collectively); Japan; United States; Russia

2. EXAMPLE 2: An emerging space participant country, featuring a shorter space history and more recent economic space attributes CASE STUDY: How is this country managing its more limited or recent space economic attributes to maximize its relative competitiveness? COUNTRY OPTIONS: Canada; China; India; South Korea; Israel

3. EXAMPLE3: A space participant country whose competitive position is perceived as marginal / diminishing CASE STUDY: How could this country more effectively manage its more space economic attributes to maximize its relative competitiveness? COUNTRY OPTIONS: Brazil; United States